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# Attitude and Behavior of Water Conservation by Hotel Guests: The Role of Gender as Moderating Variable

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**Abstract**

*This research aims to examine the effect of attitude on behavior of water conservation by hotel guests with gender as moderating variable. Research object is hotels in Yogyakarta, Indonesia. Research subject includes 400 guests who stay in Yogyakarta hotels. Variables are measured by questionaries. Data analysis uses moderating analysis regression and hierarchical regression by IBM-SPSS. Based on data analysis, attitude affect behavior of water conservation by hotel guests. This research also finds that gender moderates the effect of attitude on behavior of water conservation by hotel guests. This research contributes to the literature. This research combines the goal-framing theory and sociodemographic concept to capture gender and water conservation. This research also contributes to provide new evidence of gender and water conservation by hotel guests in Indonesia.*

## Introduction

Regulation of Tourism and Creative Economics Minister No. 9 2021 about Sustainable Tourism Destination Guidance regulates indicators of sustainable tourism including indicator of water management and conservation (Menteri Pariwisata Dan Ekonomi Kreatif, 2021) Regulation of President No. 37 2023 about National Policy of Water Resource also regulates water efficiency in all sectors (Presiden Republik Indonesia, 2023), including tourism sector. In the context of tourism, clean water is a main resource, especially to fulfill hotels facilities for tourists (Alhudaithi et al., 2022; Cai et al., 2023).

Since water management is important in hotels, it is important to examine water conservation by hotel guests to achieve sustainable tourism (Mazzoni et al., 2022). Attitude towards water conservation refers to positive feeling and emotions that relate to water conservation and efficiency (Reddy et al., 2023). Positive feeling and emotions lead to intention to conserve water (Valizadeh et al., 2023). Intention will improve hotel guests to behave in real water conservation (Casado-Díaz et al., 2022).

Based on goal-framing theory (Lindenberg & Steg, 2013), positive feeling and intention become determinant factors to motivate to do specific behavior, including behavior of water conservation. Hall et al. (2016) find that there is a relationship between attitude and behavior of sustainability by tourists. Han et al. (2018) and Casado-Díaz et al. (2022) also find that attitude leads to behavior of water conservation.

This research considers gender in the relationship between attitude and behavior of water conservation by hotel guests. This research suggests that factors of sociodemographic is important to affect attitude and behavior. Based on concept of sociodemographic, attitude and behavior can be affected by demographic factors including gender (Casado-Díaz et al., 2022). Gender is important sociodemographic factor to differentiate which individuals that have more characteristics of pro-environment and pro-sustainability. Females tend to have more water



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conservation concern (Gabarda-Mallorquí et al., 2018) and pro-environment behavior (Vicente-Molina et al., 2018) than male ones.

Casado-Díaz et al. (2022) and Cole et al. (2020) explain that there is no gender consideration in the study of tourism and water conservation. However, there are previous findings that shows gender affect tourists' behavior towards sustainability (Han et al., 2020; Han & Hyun, 2018). It is important to examine gender and water conservation in hotels. First, 77% of tourists support environmental conservation. Second, tourists willing to pay more to conserve the environment (Jebli et al., 2019).

Third, sustainable development goals (SDGs) suggest the wise consumption behavior to support sustainability (12$^{th}$ indicator) and clean water availability (6$^{th}$ indicator). Fourth, Cole et al. (2020) suggest that the study of gender, water, and tourism still needs more exploration. This research aims to examine whether attitude affect behavior of water conservation by hotel guests, and whether gender moderates the effect of attitude on behavior of water conservation by hotel guests. This research contributes to the literature.

This research combines the goal-framing theory and sociodemographic concept to capture gender and water conservation. This research also contributes to provide new evidence of gender and water conservation by hotel guests in Indonesia. Goal-framing theory explains that people have the way to interpret the information and behave upon the situation (Lindenberg & Steg, 2013). Behavior is determined by affective and cognitive factors that lead to intention and attitude. When people have certain intention and attitude, they tend to have behavior that relate to their intention and attitude.

In tourism and environmental context, goal-framing theory suggests that tourists will have certain behavior based on attitude when they face situation and environmental aspects of destination. There are some studies that use goal-framing theory in the context of tourism and sustainability. Westin et al. (2020) use goal-framing theory to capture car parking behavior in Sweden tourism destination for environmental sustainability. Based on goal-framing theory, Westin et al. (2020) examine whether parking sign affect tourists' emotion, hedonic, and normative behavior in parking policy. The study finds that emotional, hedonic, and norms affect tourists' behavior.

Wang et al. (2022) examine the customers' behavior to choose green hotels based on theory of planned behavior, value-belief-norm theory, and goal-framing theory. Wang et al. (2022) find that intention affect customers' behavior to choose green hotels. Moreover, Wang et al. (2022) find that goal-framing theory has a higher predictive power than theory of planned behavior and value-belief-norm theory. Peng et al. (2024) examine the effect of type of message sign for tourists' safety on tourists' behavior.

By using goal-framing theory, Peng et al. (2024) find that message that provide concrete information and bad consequences more effective to affect tourists' behavior to obey the safety guidance. Canto et al. (2023) have a study of literature review that relate to goal-framing theory in the context of environmental behavior. Canto et al. (2023) examine 25 studies find that most of studies of goal-framing theory can capture people behaviors, especially behavior that relates to pro-environmental, and explain how to deal with environmental conflicts.

Zhang et al. (2024) examine goal-framing theory in the context of green travel behavior in China. Green travel refers to carbon reduction in transportation. Zhang et al. (2024) find that media persuasive, hedonic motivation, and normative motivation affect behavior of green travel. Sociodemographic refers to sociological and demographic factors had by individuals that determine their positions and roles to specify certain behavior (Abdullahi, 2020). In the



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context of tourism, sociodemographic features are expected can determine tourists' behavior (Almeida, 2020).

This research uses gender as sociodemographic factor that determine behavior of water conservation by hotel guests. This research argues that females have characteristics of pro-environmental (Casado-Díaz et al., 2022). There are some studies that use gender as sociodemographic factor in the context of hotel or tourism industry and sustainability or green practice. Moise et al. (2021) investigate whether green practice by hotels affect customers' perception and behavior in Bogota. By analyzing 302 guests in 3-4 stars hotels, Moise et al. (2021) find that green practice improves customers' trust, especially for female ones.

Cole et al. (2020) do a literature review about water, tourism, and gender. Cole et al. (2020) explain that there is still literature gap in the nexus of water-tourism where water conservation is important in the tourism industry. Cole et al. (2020) suggest that gender can be an important factor to determine whether there is a relationship between water conservation and tourism, since females tend to engage in green activities.

Cole (2017) observes how perception of feminist ecology politician towards water conservation by tourism sector in Laboan Bajo, Indonesia. Based on more than 100 respondents, sociodemographic factors, including gender determine the water conservation in the destination of Labuan Bajo. Khandker et al. (2020) investigates female participation level in the water irrigation in eastern India.

Based on survey in 81 water institution in easter India, Khandker et al. (2020) find that there is a low female participation level that create social and economic problem about water irrigation, especially for farmers and households. Attitude refers to the orderliness of affective, cognitive, and conative toward specific object in certain condition (Zeng et al., 2023). If individuals have positive emotion, such as like or favorable, towards phycological objects, they tend to have positive attitude.

On the other hand, if individuals have negative emotion, such as dislike or unfavorable, towards phycological objects, they tend to have negative attitude (Bellucci, 2020). Attitude has important role for individuals to adjust the behavior, action, experience, and image (Yuan et al., 2023). Behavior refers to direct actions to achieve, use, decide, and choose consciously (Michie et al., 2011). Attitude can give intention for individuals to do certain action as a predictor to predict behavior. Attitude captures value had by individuals as criteria to decide whether there is a suitability between personal value and certain behavior. Since attitude can give stronger intention and motivation to do certain action, attitude promotes potential for bigger possibility of a behavior is actually occurred.

The relationship between attitude and behavior is vary since attitude can also come from individuals' characteristic, emotion, pressure, risk or time. In the context of water conservation in hotels, attitude shows value, norm, and belief that motivate hotel guests to conserve and save the use of the water. Positive attitude toward water conservation leads hotel guests to have favorable to save water when they stay at the hotels. The guests decide to do actual action to conserve and save the water.

In the context of goal-framing theory (Lindenberg & Steg, 2013), hotel guests decide to have water conservation behavior when they interpret and analyze the actions based on the value and belief that they had. Hall et al. (2016) find that there is a relationship between attitude and behavior of sustainability by tourists. Han et al. (2018) and Casado-Díaz et al. (2022) also find that attitude leads to behavior of water conservation.



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Gender become an important factor towards the relationship between attitude and behavior (Ajzen & Fishbein, 1980). This research specifically investigate attitude towards environmental value, belief, and motivation, including water conservation. In this case, this research needs gender to differentiate the level of water conservation value, belief, and motivation. Based on sociodemographic concept, gender is a demographic factor that determine the role in water conservation behavior and action.

In the context of environmental behavior, females have higher ethical behavior to engage more in environmental responsibility, conservation, and damage mitigation than male ones (Dagher et al., 2015). Hasnain et al. (2020) find that female customers engage more in green behavior and products than males. In the context of hospitality, gender-based hotel guests' groups are indicated to determine attitude and behavior. Dolnicar & Leisch (2008) find that female guests care more about environmental aspects than male ones.

Previous studies, such as Han & Hyun (2018) and Han et al. (2020), already observe the nexus between gender and water conservation and find significant relationship between gender and water conservation. Since water conservation is included in environmental aspects, females have more positive attitude toward water conservation (Palamuleni et al., 2022). Gabarda-Mallorqui et al. (2018) find that females have higher water conservation behavior than males.

Since females tend to engage more in pro-environmental idea (Vicente-Molina et al., 2018), such as water conservation, gender is expected can moderate the effect of attitude towards behavior of water conservation. This research uses goal-framing theory and sociodemographic to capture the water conservation by hotel guests. Goal-framing theory explains the relationship between attitude and behavior, while sociodemographic concept captures the role of gender. The theory framework can be seen as in figure 1.

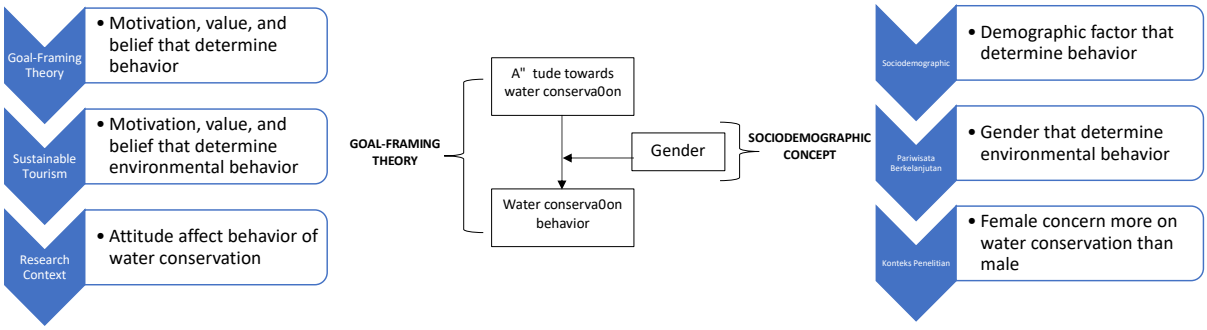


Figure 1. Theory Framework

Source: Elaboration of Theory and Previous Researches

Based on figure 1, goal-framing theory captures the motivation, value, and belief that determine behavior. In the context of sustainable tourism, goal-framing theory captures the motivation, value, and belief that determine environmental behavior by tourists. In the research context, goal-framing theory captures the effect of attitude on behavior of water conservation. Sociodemographic concept captures demographic factor that determine behavior. In the context of sustainable tourism, sociodemographic concept captures gender as determinant factor of environmental behavior. In the research context, sociodemographic concept captures that females have more concern on water conservation than males.

## Methods

### Research Object and Subject

Research object is hotels in Yogyakarta, Indonesia. First, Yogyakarta is one of tourism destinations in Indonesia where there is a lot of tourists who can be potential of hotel (Nihayati



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& Aryadi, 2023). Second, in 2023 Yogyakarta have an experience of water crisis that come from long dry season. Third, Yogyakarta Ketiga, Yogyakarta have local wisdoms that relate to clean water conservation such as *Munggah Mundur Madhêp Kali*, *Sanitasi Total Berbasis Masyarakat*, *Pengelolaan Limbah Domestik Terpadu Skala Pemukiman*, and *Mêrti Kali* (Humas Pemda DIY, 2021).

Fourth, Yogyakarta have some regulation that relate to water conservation such as Yogyakarta Regulation No. 5 2012 about Groundwater Management (Gubernur DIY, 2012) and Major Regulation No. 3 2014 about dan Peraturan Walikota Nomor 3 Tahun 2014 tentang Provision of Raw Water for Hotels in Yogyakarta City (Walikota Yogyakarta, 2014). Research subject includes tourists who stay in Yogyakarta hotels. This research determines respondents as research samples. Samples selection Slovin (1960) since Slovin (1960) is useful to capture specific condition. In this context of this research, specific condition refers to water conservation behavior by hotel guests. Sample calculation can be seen as in equation 1 (Slovin, 1960).

$$Sample = \frac{Population}{1+Population\ (error)^2} \quad (1)$$

Based on equation 1, population includes total hotel guests in Yogyakarta. Indonesian Statistic Centre (2023) report the last update in August 2023 that tourists who stay in Yogyakarta hotel are 436,190 guests. Error value is 0.05 (5%) where it is based on Dickson & Baird (2011) who explain that significance of 5% is often used in social research and survey.

$$Sample = \frac{Population}{1 + Population\ (error)^2} = \frac{436{,}190}{1 + 436{,}190\ (0.05)^2} = 400$$

Based on equation 2, total samples are 400 respondents. To adjust the context of gender variable, this research splits the samples into 2 groups of 200 females and 200 males. Data is primary data which are respondents' perceptions. Data are obtained by questionaries. Questionaries include 14 questions that relate to research variables. Questionaries' scale is 7 *likert* from 1 (strongly disagree) to 7 (strongly agree) based on Casado-Díaz et al. (2022).

**Variable Measurement**

Variables are measured from questionaries scores. Attitude towards water conservation is measured by 9 questions that relate to the use of wash basin, water tap, toilet tap, towel, and bed cover (Casado-Díaz et al., 2022). Water conservation behavior is measured by 5 questions that relate to perception on water conservation based on Casado-Díaz et al. (2022). The questionaries can be seen as in table 1.

Table 1. Variable Measurement

| Variable | Question Items | Code |
|---|---|---|
| Water Conservation Behavior (BEHAVIOR) | I turn off the sink faucet when brushing my teeth. | Behavior 1 |
| | I don't turn off the shower faucet until the water temperature is right (reverse). | Behavior 2 |
| | I take a shower more than once a day (reverse). | Behavior 3 |
| | I turn off the shower faucet when soaping my body. | Behavior 4 |
| | I take a shower longer than I should (reverse). | Behavior 5 |
| | I keep the toilet faucet on every time I use it (reverse). | Behavior 6 |



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| | | |
|---|---|---|
| | I use the small water button instead of the big one when using the toilet. | Behavior 7 |
| | I use the same towel more than one day. | Behavior 8 |
| | I use the same bed cover more than one day. | Behavior 9 |
| Attitude towards Water Conservation (ATTITUDE) | For me, saving water in a hotel is good behavior. | Attitude 1 |
| | For me, saving water in a hotel is important. | Attitude 2 |
| | For me, saving water in a hotel is fun. | Attitude 3 |
| | For me, saving water in a hotel is useful. | Attitude 4 |
| | For me, saving water in a hotel is beneficial. | Attitude 5 |

Source: Casado-Díaz et al. (2022)

**Data Analysis**

Data analysis uses moderating analysis regression and hierarchical regression by IBM-SPSS. Data analysis is initiated by validity, reliability, and classical assumption tests. Validity test uses pearson-correlation while reliability test uses cronbach-alpha. Classical assumption tests include normality, heteroscedasticity, and multicollinearity tests. Moderating analysis regression model can be seen as in equation 3 while hierarchical regression model can be seen as in equations 4 and 5.

$$BEHAVIOR = a + b_1 ATTITUDE + b_2 ATTITUDE\ x\ GENDER + b_3 GENDER + e \quad (3)$$

$$BEHAVIOR_{female} = a + b_1 ATTITUDE_{female} + e \quad (4)$$

$$BEHAVIOR_{male} = a + b_1 ATTITUDE_{male} + e \quad (5)$$

Based on equations 3-5, BEHAVIOR is water conservation behavior. ATTITUDE is attitude towards water conservation. GENDER is respondents' gender which is measured by dummy variable where score 1 for female and score 0 for male. Hypothesis of H1 is accepted if coefficient of b1 in equation 3 is positive and significant.

Hypothesis of H2 is accepted if coefficient of b3 in equation 3 is positive and significant, or there is a significant change of R-square between equations 4 and 5. In the context of moderating effect, equation 3 aims to examine how attitude affect behavior of water conservation if male respondent is changed to female one. Equations 4 and 5 aim to examine that there is significant different of attitude on behavior of water conservation between female and male.

## Results and Discussion

**Respondent Characteristics**

Table 2. Respondent Characteristics

| Characteristics | | Respondents | Percentage of all sample | Respondents | Percentage of all sample | Respondents | Percentage of all sample |
|---|---|---|---|---|---|---|---|
| | | All Sample | | Female | | Male | |
| Age | 18-29 years old | 87 | 21.75% | 39 | 9.75% | 48 | 12.00% |
| | 30-44 years old | 153 | 38.25% | 79 | 19.75% | 74 | 18.50% |
| | 45-65 years old | 120 | 30.00% | 70 | 17.50% | 50 | 12.50% |
| | 65 years old or more | 40 | 10.00% | 12 | 3.00% | 28 | 7.00% |
| Income per month | Under IDR 2 million | 14 | 3.50% | 6 | 1.50% | 8 | 2.00% |
| | IDR 2 million - IDR 5 million | 50 | 12.50% | 39 | 9.75% | 11 | 2.75% |



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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | IDR 5 million - IDR 10 million | 149 | 37.25% | 67 | 16.75% | 82 | 20.50% |
| | Above IDR 10 million | 187 | 46.75% | 88 | 22.00% | 99 | 24.75% |
| Nationality | Indonesian | 277 | 69.25% | 155 | 38.75% | 122 | 30.50% |
| | Foreigner | 123 | 30.75% | 45 | 11.25% | 78 | 19.50% |

Source: Proceed Data, 2024

This research uses 400 respondents as research samples that consist of 200 females and 200 males. Based on table 2, there are 87 respondents (21.75% of all 400 respondents) who have age of 18-29 years old, 153 respondents (38.25% of all 400 respondents) who have age of 30-44 years old, 120 respondents (30.00% of all 400 respondents) who have age of 45-65 years old, and 40 respondents (10.00% of all 400 respondents) who have age of above 65 years old. There are 39 female respondents (9.75% of all 400 respondents) who have age of 18-29 years old, 79 female respondents (19.75% of all 400 respondents) who have age of 30-44 years old, 70 female respondents (17.50% of all 400 respondents) who have age of 45-65 years old, and 12 female respondents (3.00% of all 400 respondents) who have age of above 65 years old. There are 48 male respondents (12.00% of all 400 respondents) who have age of 18-29 years old, 74 male respondents (18.50% of all 400 respondents) who have age of 30-44 years old, 50 female respondents (12.50% of all 400 respondents) who have age of 45-65 years old, and 28 male respondents (7.00% of all 400 respondents) who have age of above 65 years old.

There are 14 respondents (3.50% of all 400 respondents) who have income of under IDR 2 million per month, 50 respondents (12.50% of all 400 respondents) who have income of IDR 2 million until IDR 5 million per month, 149 respondents (37.25% of all 400 respondents) who have income of IDR 5 million until IDR 10 million per month, and 187 respondents (46.75% of all 400 respondents) who have income of above IDR 10 million per month. There are 6 female respondents (1.50% of all 400 respondents) who have income of under IDR 2 million per month, 39 female respondents (9.75% of all 400 respondents) who have income of IDR 2 million until IDR 5 million per month, 67 female respondents (16.75% of all 400 respondents) who have income of IDR 5 million until IDR 10 million per month, and 88 female respondents (22.00% of all 400 respondents) who have income of above IDR 10 million per month.

There are 8 male respondents (2.00% of all 400 respondents) who have income of under IDR 2 million per month, 11 male respondents (2.75% of all 400 respondents) who have income of IDR 2 million until IDR 5 million per month, 82 male respondents (20.50% of all 400 respondents) who have income of IDR 5 million until IDR 10 million per month, and 99 male respondents (24.75% of all 400 respondents) who have income of above IDR 10 million per month. There are 277 respondents (69.25% of all 400 respondents) who are Indonesians and 123 respondents (30.75% of all 400 respondents) who are foreigners. There are 155 female respondents (38.75% of all 400 respondents) who are Indonesians and 45 female respondents (11.25% of all 400 respondents) who are foreigners. There are 122 male respondents (30.50% of all 400 respondents) who are Indonesians and 78 male respondents (19.50% of all 400 respondents) who are foreigners.

**Descriptive Statistics**

Table 3. Descriptive Statistics

| Indicator | Behavior | | | Attitude | | |
|---|---|---|---|---|---|---|
| | All Sample | Female | Male | All Sample | Female | Male |
| Minimum | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Maximum | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| Average | 5.67 | 6.01 | 5.34 | 5.25 | 5.89 | 5.12 |



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| | | | | | | |
|---|---|---|---|---|---|---|
| Standard Deviation | 1.02 | 1.12 | 0.84 | 0.93 | 1.02 | 1.01 |

Source: Proceed Data, 2024

Table 3 shows that, for all samples, range of behavior of water conservation (BEHAVIOR) is between 2.00-7.00 where the average of behavior of water conservation is 5.67 with a deviation of 1.02. For all samples, range of attitude towards water conservation (ATTITUDE) is between 2.00-7.00 where the average of behavior of water conservation is 5.25 with a deviation of 0.93. For female group of samples, range of behavior of water conservation (BEHAVIOR) is between 2.00-7.00 where the average of behavior of water conservation is 6.01 with a deviation of 1.12. For female group of samples, range of attitude towards water conservation (ATTITUDE) is between 2.00-7.00 where the average of behavior of water conservation is 5.89 with a deviation of 1.02.

For male group of samples, range of behavior of water conservation (BEHAVIOR) is between 2.00-7.00 where the average of behavior of water conservation is 5.34 with a deviation of 0.84. For male group of samples, range of attitude towards water conservation (ATTITUDE) is between 2.00-7.00 where the average of behavior of water conservation is 5.12 with a deviation of 1.01. As expected, average of water conservation behavior is higher for females than male ones. It is consistent with Han & Hyun (2018), Han et al. (2020), and Gabarda-Mallorqui et al. (2018) that females are pro-environmental idea and have higher water conservation behavior than male ones.

**Validity and Reliability Tests**

Table 4. Validity and Reliability Tests

| Variable | Code | Pearson Correlation | Cronbach Alpha |
|---|---|---|---|
| Water Conservation Behavior (BEHAVIOR) | BEHAVIOR 1 | 0.765* | 0.907 |
| | BEHAVIOR 2 | 0.687* | |
| | BEHAVIOR 3 | 0.771* | |
| | BEHAVIOR 4 | 0.742* | |
| | BEHAVIOR 5 | 0.791* | |
| | BEHAVIOR 6 | 0.699* | |
| | BEHAVIOR 7 | 0.729* | |
| | BEHAVIOR 8 | 0.720* | |
| | BEHAVIOR 9 | 0.775* | |
| Attitude towards Water Conservation (ATTITUDE) | ATTITUDE 1 | 0.744* | 0.923 |
| | ATTITUDE 2 | 0.739* | |
| | ATTITUDE 3 | 0.709* | |
| | ATTITUDE 4 | 0.752* | |
| | ATTITUDE 5 | 0.765* | |
| *Significant in 0.01 | | | |

Source: proceed data, 2024

This research uses pearson correlation to examine validity test. Questionaries are valid if the coefficient of pearson correlation is significant (Mo et al., 2023). Table 4 shows that coefficient values of pearson correlation are significant which indicate that questionaries are valid. This research uses cronbach alpha to examine reliability test. Questionaries are reliable if the



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cronbach alpha is above 0.7 (Taber, 2018). Table 4 shows that values of cronbach alpha are above 0.7 which indicate that questionaries are valid.

**Classical Assumptions**

Table 5. Classical Assumption Test

| Test | Result | Notes |
|---|---|---|
| Kolmogorov-Smirnov | > 0.05 | Data are distributed normally |
| Glejser | > 0.05 | There is no heteroscedasticity problem |
| VIF | < 10 | There is no multicollinearity problem |

Source: Proceed Data, 2024

Classical assumption aims to ensure that regression model is not bias by examining normality, heteroscedasticity, and multicollinearity tests. Based on table 5, significance value of Kolmogorov-smirnov is above 0.05 which indicate that data are distributed normally. Significance value of glejser is above 0.05 which indicates that there is no heteroscedasticity problem. Value of VIF is below 10 which indicates that there is multicollinearity problem.

**Hypotheses Test**

Table 6. Hypotheses Test

| Variables | Coefficient | t-Stastistics | Coefficient | t-stastistics | Coefficient | t-stastistics |
|---|---|---|---|---|---|---|
| | All Sample | | Female | | Male | |
| ATTITUDE | 0.437 | 5.341* | 0.561 | 7.001* | 0.332 | 4.298* |
| ATTITUDE x GENDER | 0.378 | 4.337* | | | | |
| GENDER | 0.223 | 4.221* | | | | |
| Adjusted R-Squared | 0.567 | | 0.508 | | 0.379 | |
| R-Squared Change | | | 0.129** | | | |
| F-Statistics | 8.891* | | 7.221* | | 4.332* | |
| *Significant in 0.01, **significant in 0.05 | | | | | | |

Source: Proceed Data, 2024

Table 6 shows that, in model for all sample, attitude towards water conservation (ATTITUDE) has a coefficient of 0.437 with a t-statistic of 5.341 (significant in 0.01). The result indicates that H1 is accepted where attitude affect behavior of water conservation by hotel guests. In model for all sample, interaction between attitude towards water conservation and gender (ATTITUDE x GENDER) has a coefficient of 0.378 with a t-statistic of 4.337 (significant in 0.01). In model for female, adjusted R-Squared is 0.508. In model for male, adjusted R-Squared is 0.379. R-Squared change between female model and male model is 129 (significant in 0.05). The result indicates that H2 is accepted where gender moderates the effect of attitude on behavior of water conservation by hotel guests.

This research aims to examine the effect of attitude on behavior of water conservation by hotel guests with gender as moderating variable. This research is important since tourism sustainability is implemented to reduce environmental damage. This research also contributes to provide new evidence of gender and water conservation by hotel guests in Indonesia. First result shows that attitude affect behavior of water conservation by hotel guests. The result is consistent with Hall et al. (2016) who find that there is a relationship between attitude and



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behavior of sustainability by tourists, and Han et al. (2018) and Casado-Díaz et al. (2022) who also find that attitude leads to behavior of water conservation.

Attitude shows value, norm, and belief that motivate hotel guests to conserve and save the use of the water. Positive attitude toward water conservation leads hotel guests to have favorable to save water when they stay at the hotels. The guests decide to do actual action to conserve and save the water. The first result confirms goal-framing theory where hotel guests decide to have water conservation behavior when they interpret and analyze the actions based on the value and belief that they had. Second result shows that gender moderates the effect of attitude on behavior of water conservation by hotel guests. This research is consistent with Gabarda-Mallorqui et al. (2018) who find that females have higher water conservation behavior than males. Females have higher ethical behavior to engage more in environmental responsibility, conservation, and damage mitigation than male ones. This result confirms sociodemographic concept where gender is a demographic factor that determine the role in water conservation behavior and action.

## Conclusion

This research aims to examine the effect of attitude on behavior of water conservation by hotel guests with gender as moderating variable. Based on data analysis, attitude affect behavior of water conservation by hotel guests. This research also finds that gender moderates the effect of attitude on behavior of water conservation by hotel guests. This research implies hotel management to formulate guidance for guests to save water including the use of tap water, shower, and bed cover. This research also implies hotel guests to save water when they stay in the hotel. This research also implies regulator, especially Ministry of Tourism and Creative Economy, to formulate regulation that relate to water conservation in hotels.

## Suggestion

This research has some limitations. First, this research only observes respondents in Yogyakarta and the result cannot be generalized to other location. Future research is expected to examine respondents in other cities. Second, this research does not examine the actual the use of the water in hotels because of data limitation. To improve accuracy, future research is expected to use actual data of the use of the water in hotels.

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